PRODUCT BROCHURE

SMARTEMP®
IN COMFORT

Auditorium Floor Swirl Diffuser

ASF-AD

ASF-AD : 032021

DESCRIPTION

The SMARTEMP® Auditorium Floor Swirl Diffuser, type ASF-AD (figure 1), is a high induction floor swirl diffuser with rearward incline for draught-free air supply from beneath auditorium seats.

The highly inductive supply air pattern strongly induces surrounding room air into the supply air stream, equalising supply air stream temperature with room air temperature and breaking down discharge velocity. This provides draught-free, low level air supply, in which air temperature at ankle height does not drop below the desirable 21°C (figure 2).

The discharge direction is inclined towards the rear (figure 3) – away from the sensitive ankle regions of seated occupants. The incline direction can be rotated to allow for applications where the diffuser is not directly centrally located beneath the seat. Slightly offset locations can therefore be accommodated, which assists in overcoming co-ordination issues, such as structural constraints.

Each diffuser is equipped with a basket and adjustable damper. Damper settings are adjustable in steps of approximately 20% airflow. This allows airflow to be fine-tuned on site, and is especially beneficial in tiered seating applications, as rear seating typically requires approximately 20% more airflow than central seating, due to the stratified layer of heat engulfing elevated seats, whereas front seating typically requires 20% less airflow than the average, due to gentle cascading of additional cool air from higher tiers.

Figure 1

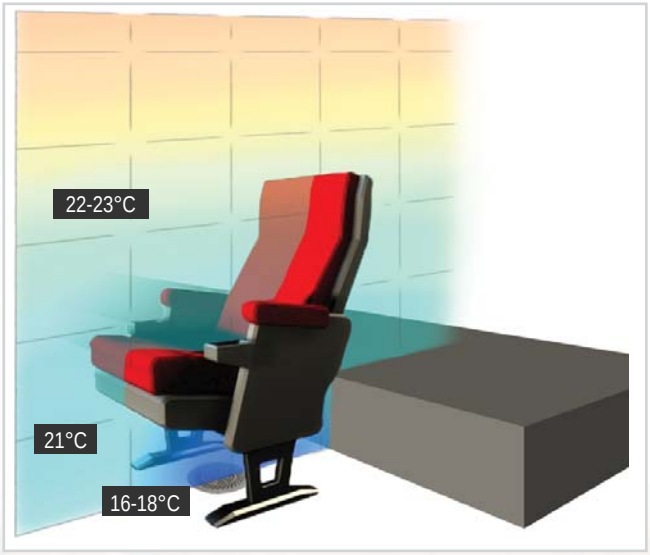
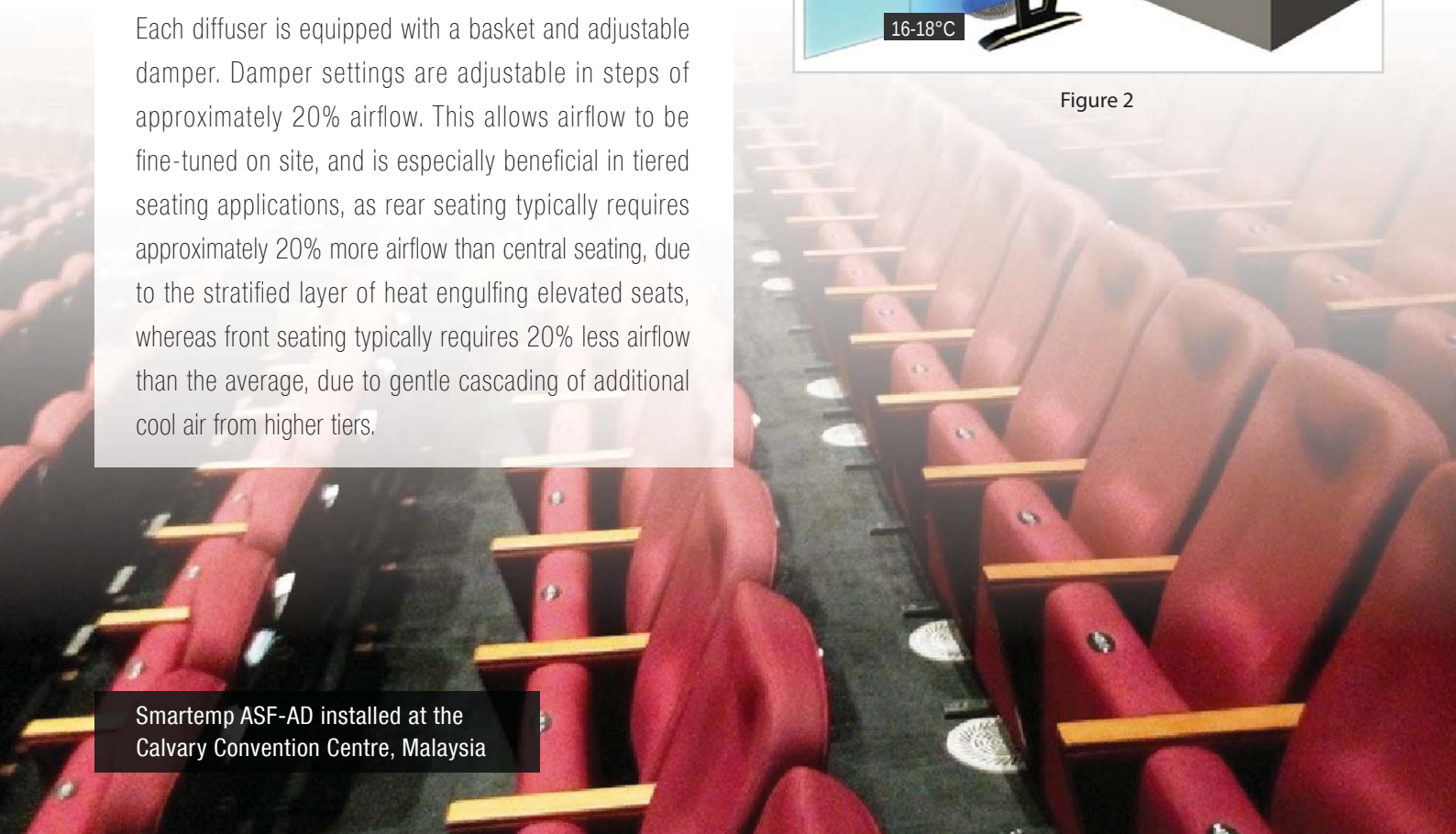


Figure 2



Smartemp ASF-AD installed at the Calvary Convention Centre, Malaysia

The ASF-AD provides substantially equal horizontal temperature distribution with a minimal vertical temperature gradient typically less than 1.5 K/m in the occupied space (figure 4). Room air velocities are extremely low. Heat and contaminants from occupants rise by natural convection as thermal plumes from each occupant to accumulate in high level stratified layers of up to 35 °C as they are displaced by fresh replenishment air from below.

Typical supply airflow is between 10 – 20 L/s at 16 – 18 ° C. Low-level air distribution systems, combined with high-level extraction, improve levels of comfort and air freshness by supplying conditioned air directly to the lower levels of the occupied space. Heat and pollutants generated within the space collect in a hot, high-level blanket of contaminants.

Two versions are available:
- With basket A1: For assembly halls with non-critical acoustical criteria, such as lecture theatres;
- With basket A2: For acoustically stringent assembly halls, such as opera houses.

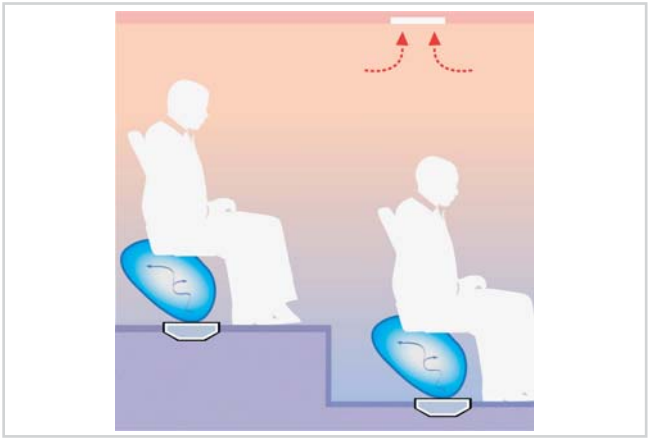


Figure 3

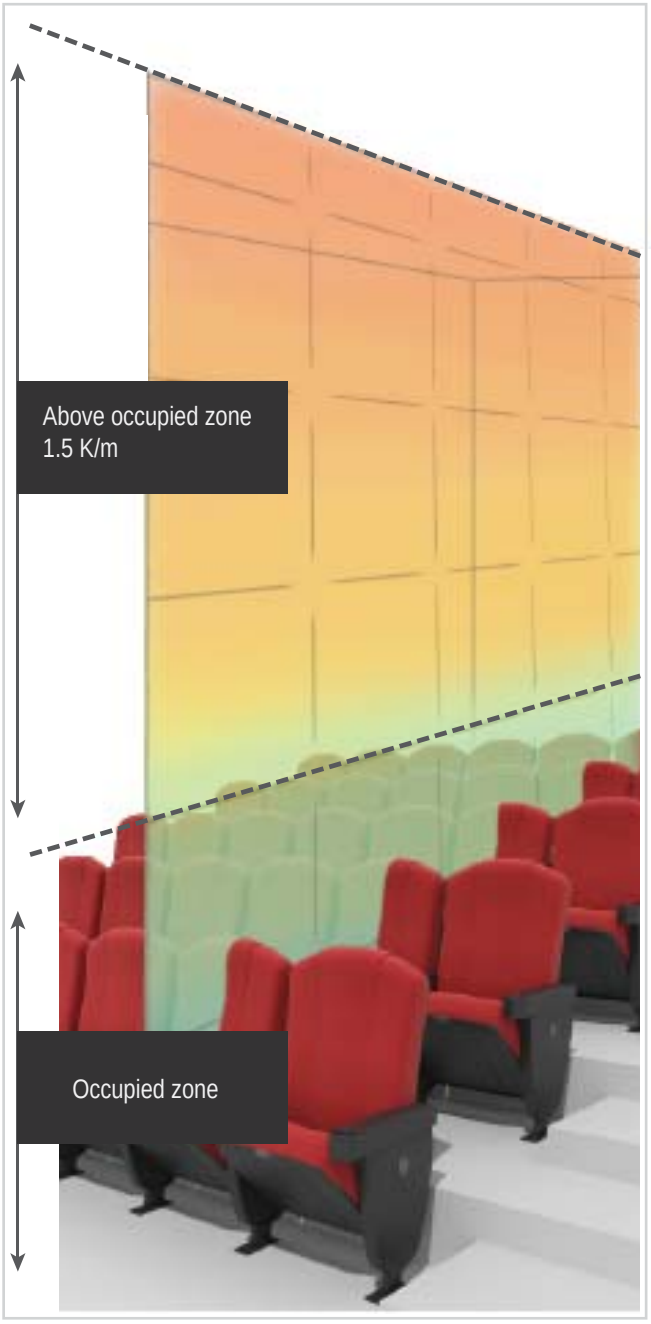
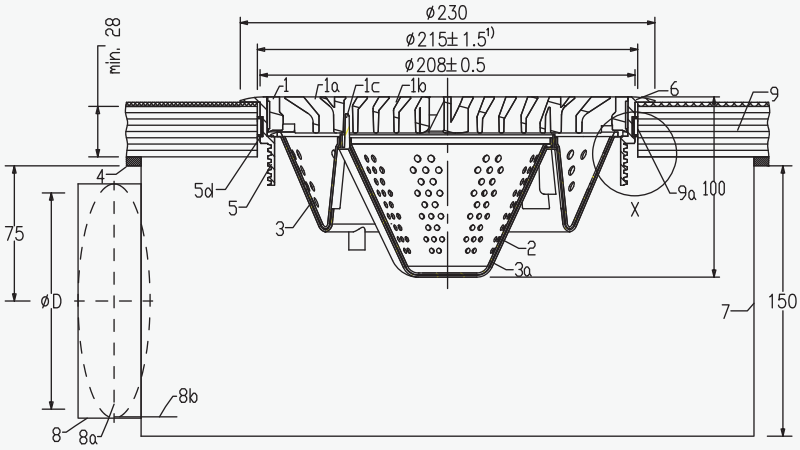
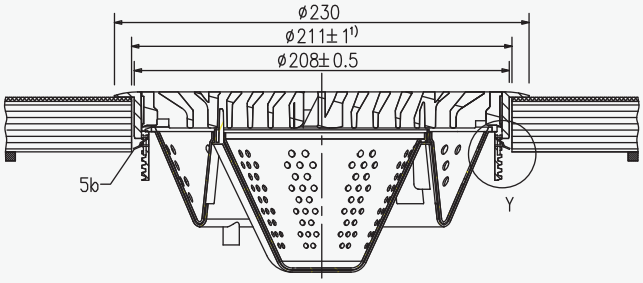


Figure 4

Floor Outlet With Type BA1 Basket for Assembly Halls

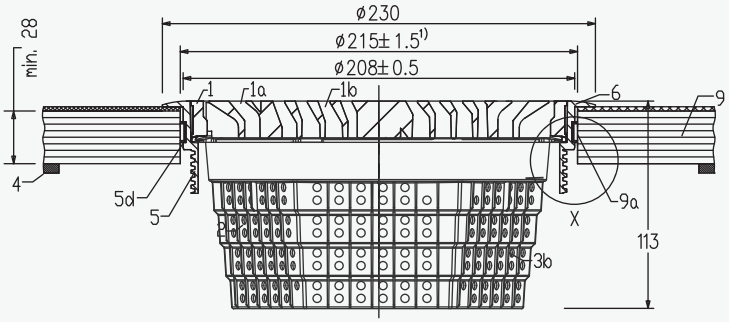


Drawing 1: ASF-AD-DN200-BA1-RR-K

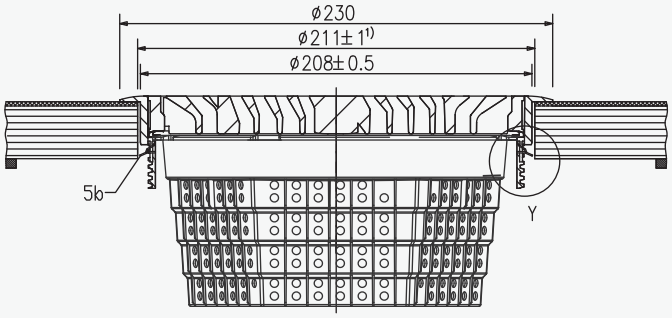


Drawing 2: ASF-AD-DN200-BA1-RC

Floor Outlet With Type BA2 Basket for Auditoria



Drawing 3: ASF-AD-DN200-BA2-RR

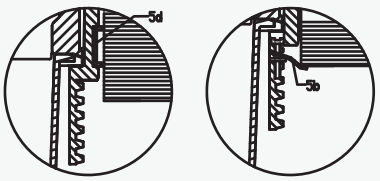


Drawing 4: ASF-AD-DN200-BA2-RC

Key

1 Swirl discharge element (core)	5 Mounting ring insert
1a Swirl discharge slot	5b Claw fastener
1b Diagonal discharge slot	5d Rubber wedge collar
1c Indicator	6 Trim lip
1d Symbols for configurations, airpattern and discharge rate	7 Connection box
1e Pointer for diagonal pattern direction	8 Connection spigot
2 Dust receptacle basket	8a V – damper (optional)
3 Outer damper	8b Lever
3a Inner damper	9 Access floor tile
3b Damper	9a Cylindrical penetration
4 Sealant (on site,by others)	

Detail



Detail X Detail Y

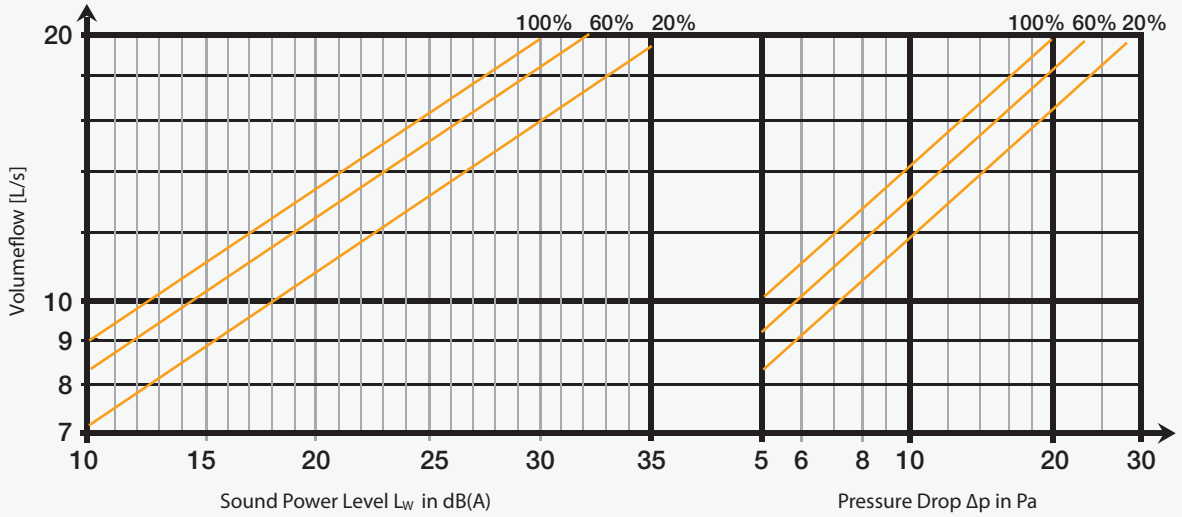
Note:
1) Ø of cylindrical floor penetration.
Dimensions in mm.

Products supplied may differ slightly from those described in this technical brochure due to on-going product development.

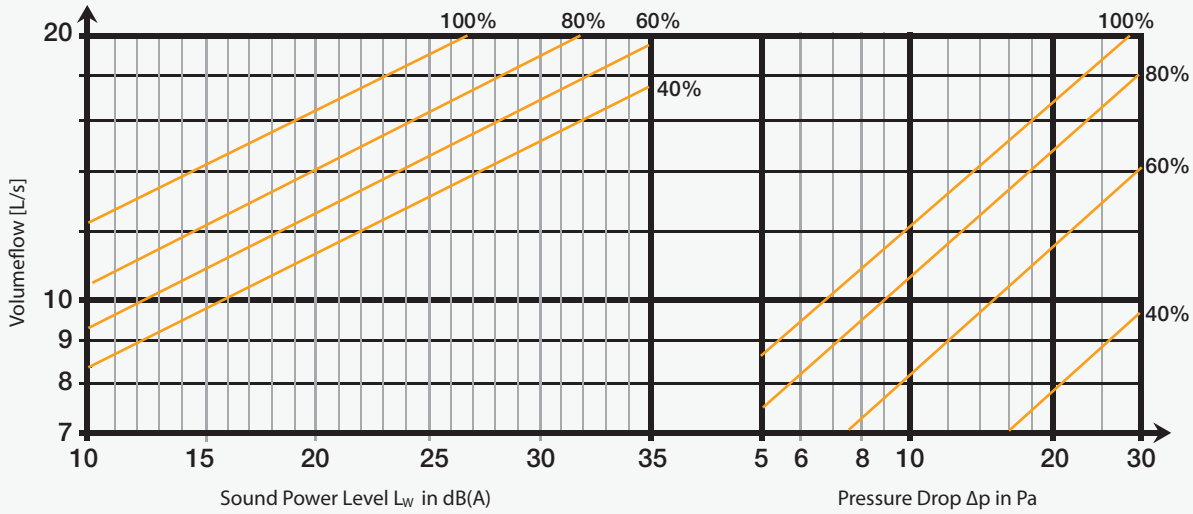
Sound power and total pressure as a function of damper setting:

Note: settings 40% & 80% not shown

BASKET A1



BASKET A2



ORDER DETAILS

ASF-AD-__-DN200-B__-D__-R__-RAL-____-__

CONNECTION:
- O* = No Connection
- K = Connection Box

RAL COLOUR:
- ST* = Standard grey/alu finish
- 9005 = Jet black
- ____ = 4 digit colour code

MOUNTING RING:
- O = No mounting ring
- R* = With rubber collar
- C[4] = With claw fastener

DAMPERS[2]:
- O = No damper
- D*,[5] = Damper[3]

BASKET[1]:
- O = No basket
- A1* = Assembly hall basket - high[3]
- A2 = Auditorium basket - high[3] (quiet operation)

MATERIAL:
- A = Aluminium
- P* = Polycarbonate

MODEL:
- Auditorium Swirl Floor - Adjustable Direction

Note:
* Standard, if no type code entered.
1 Only with Mounting Ring.
2 Only with Basket.
3 100% for BA1; 80% for BA2
Other settings available on request.
4 Only with Aluminium Mounting Ring.
5 Damper pre-set; swirl discharge element, basket and mounting ring unassembled.

Products supplied may differ slightly from those described in this technical brochure due to on-going product development.

SMARTEMP®
IN COMFORT

For additional information, please contact **info@smartemp.com**

We strive to continually improve SMARTEMP products. Brochures and marketing material are subject to change without notice, and may not reflect the most recent product variants. Please contact us or consult your SMARTEMP sales representative for current specifications or more detailed information. Not all products may be available in all geographic regions.

Applicable Patents and Trade Marks can be viewed at **smartemp.com/patents**